

## Black IPA

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **62**
- SRM **32.7**
- Style **Black IPA**

### Batch size

- Expected quantity of finished beer **17 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **23.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

### Steps

- Temp **67 C**, Time **90 min**
- Temp **67 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **15 min** at **67C**
- Keep mash **90 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **12.4 liter(s)** of **76C** water or to achieve **23.4 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Briess - Pale Ale Malt	4.6 kg (83.6%)	80 %	7
Grain	Strzegom Czekoladowy 400	0.4 kg (7.3%)	68 %	400
Grain	Briess - Chocolate Malt	0.3 kg (5.5%)	60 %	690
Grain	Carafa III	0.2 kg (3.6%)	70 %	1034

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Bravo	25 g	50 min	15.5 %
Boil	Dr Rudi	25 g	15 min	11.8 %
Boil	Cascade	15 g	5 min	6 %
Boil	Cascade	15 g	5 min	6 %
Boil	Cascade	20 g	1 min	6 %
Dry Hop	Cascade	30 g	7 day(s)	6 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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Mangrove Jack's M44 US West Coast	Ale	Dry	10 g	Mangrove Jack's
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